DCS & Labelling Worldwide

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(Singapore)	SATO Asia Pacific Pte. Ltd.
(Malaysia)	SATO Auto-ID Malaysia Sdn. Bhd.
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(Germany)	SATO Deutchland GmbH
(Poland)	SATO Polska SP Z O.O.
(UK)	SATO UK Ltd
(Holland)	SATO Rotterdam Logistics Center

Factory :

(Malaysia)	SATO Malaysia Electronics Manufacturing Sdn. Bhd.
(Malaysia)	SATO Labelling Malaysia Electronics Sdn.Bhd.

DCS & Labelling Worldwide

DR300

Quick Guide

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DIPSW 3

No.	Setting	Content
1	ON	Enable: Change parameter by touch screen
	OFF	Enable: Change parameter by touch screen
2	ON	(Reserved)
	OFF	(Reserved)
3	ON	(Reserved)
	OFF	(Reserved)
4	ON	(Reserved)
	OFF	(Reserved)
5	ON	(Reserved)
	OFF	(Reserved)
6	ON	(Reserved)
	OFF	(Reserved)
7	ON	Non-standard protocode
	OFF	Standard protocode
8	ON	Zero without slash
	OFF	Zero with slash

Separate sheet 3 (Protocol setting)

7	8	Content
ON	ON	(Reserved)
ON	OFF	STATUS 3
OFF	ON	XON-XOFF
OFF	OFF	Ready/Busy

DIPSW 2

No.	Setting	Content
1	ON	Direct Thermal
	OFF	Thermal Transfer
2	ON	(Reserved) / Reflecting type sensor
	OFF	(Reserved) / See through type sensor
3	ON	Head Check, Yes
	OFF	Head Check, No
4	ON	Hex dump function, Yes
	OFF	Hex dump function, No
5	ON	Multi items receive mode
	OFF	1 item receive mode
6	ON	(Reserved)
	OFF	(Reserved)
7	ON	Size detection, Yes
	OFF	Size detection, Yes
8	ON	Tear off (Dispense), Yes
	OFF	Tear off (Dispense), No

* Pitch sensor (DSW2-2) is effective only during service, test print. It is void during test print.

Table of Contents

What You Get

The DR300 printer comes packed in a protective carton.
Included in the carton are the following items:

- DR300 Printer
- Quick Guide
- Driver / Manual CD-Rom
- 2-Pin Power Cable or 3-Pin Plug
- Head Cleaning Sheet
- Sample Ribbons
- Ribbon Take-up Core
- Cleaning Solution
- Cleaning Cloth
- Ribbon Part List
- Maintenance Contract

After taking the DR300 Printer out from the carton and removing the protective plastic cover, it is ready for installation.

Installation and Handling Instruction

Place of installation

- Place on level surface
- Avoid vibration
- Avoid high temperature and humidity
- Avoid high environment

Power Supply

- AC220/240V power supply is needed
- Supply electricity from main power supply
- Three pin earthed power lead is required
- A maximum of 3 amp fuse link is recommended

DIP-Switch Setting

DIP-Switch Setting
DIP Switch shall be set when printer is off.
Each DIPSW setting is described below.
*All are set to OFF position as factory defaults.

No.	Setting	Content
1	ON	Data bit No. = 7
	OFF	Data bit No. = 8
2 3	Separate Sheet 1	Parity setting (None, Even, Odd)
4	ON OFF	Stop bit = 2 Stop bit = 1
5 6	Separate Sheet 2	Baud rate setting (2400, 4800, 9600, 19200)
7 8	Separate Sheet 3	Protocol setting (Ready/Busy, Xon-Xoff, Status-3)

Separate sheet 1 (Parity setting)

2	3	Content
ON	ON	(Reserved)
ON	OFF	Odd
OFF	ON	Even
OFF	OFF	None

Separate sheet 2 (Baud rate setting)

5	6	Content
ON	ON	2400 bps
ON	OFF	4800 bps
OFF	ON	19200 bps
OFF	OFF	9600 bps

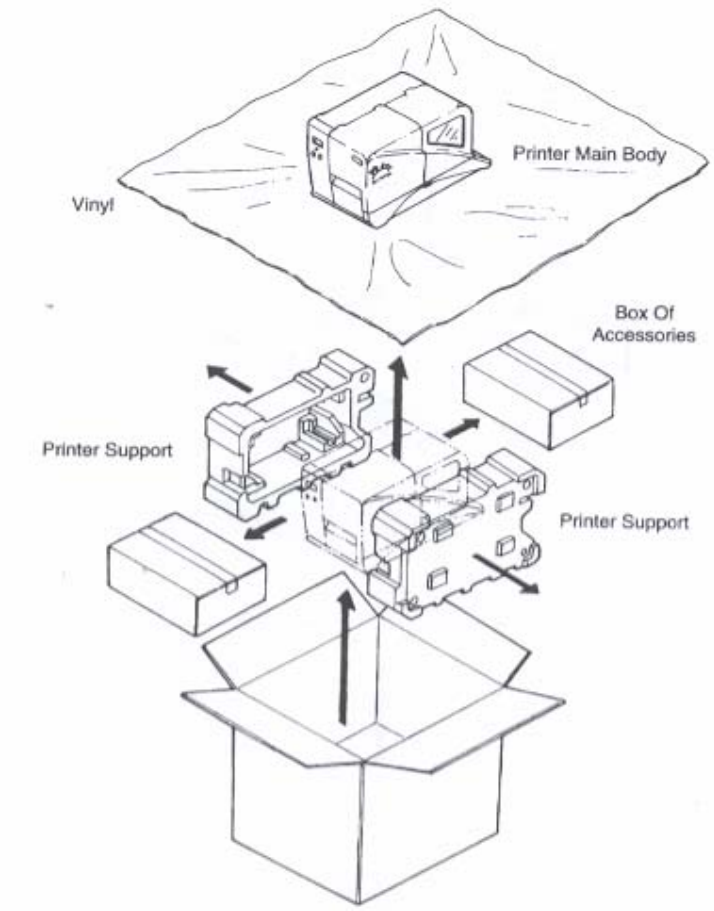
Card maintenance function	No	Yes
Online maintenance function	No	Yes
2D Codes	Yes (PDF 417, QR, Data code)	No
Truetype fonts	Yes (S/ware or card)	Yes (Card stored)
Preset data	No	Yes (1MB card, 900 sets)
£ p currency change	No	Yes
Adjustable guard bars	Software	Yes

Printer Main Body Operation Unit

LCD Display Unit	8 x 2 lines	LCD display is displayed when touch screen is not connected.
Operation Key	Feed Key	Paper feeding.
	Line Key	Temporary halts printing (print pause)
LED	2 colour LED	RED : error display GREEN : On-line
DIP Switch	DIPSW 1	Serial interface (setting baud rate, etc)
	DIPSW 2	Setting operation mode, etc. Setting Hex dump function
	DIPSW 3	Setting zero slash and non-standard protocode
Variable Control VR	PITCH	Pitch adjustment
	OFFSET	Cutter, dispense, tear off position adjustment
	PRINT	Print darkness adjustment

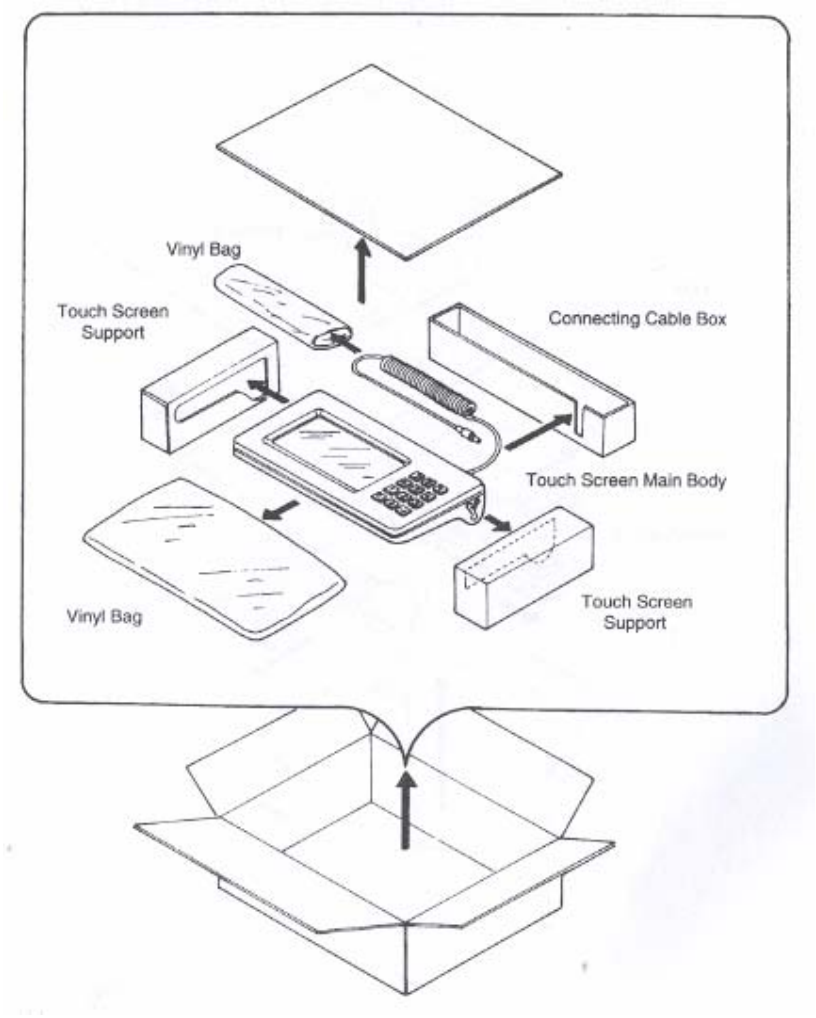
Unpacking

Remove equipment from the carton box.



Unpacking – Touch Screen (Optional Item)

Remove touch screen from the carton box.



Operating Environment Condition

Input Power Supply Voltage	Voltage AC 220V + - 10%	
Power Consumption	Max 190 VA 130W	
Environment Condition	Operating temperature	5~40 d.c.
	Operating humidity	30~80 d.c. (No condensation)
	Storage temperature	-5~60 d.c.
	Storage humidity	30~90 d.c. (No condensation)
	Except paper and carbon ribbon	

DR300 Software Specifications

	DR300 Software Specification	
	On-line specification	Stand alone specification
Format registration		Stand alone specification
Recall function (Printer Main Body)		(50 fields + 50 formats on card)
Sequential Numbering	Yes (Numeric only)	Yes (Numeric)
Copy Function	No	Yes
Box/Line Print	Yes	Yes
Graphic	BMP file	BMP file
Reverse print	Yes	Yes
Calendar function	Yes	Yes
Alphanumeric table	No	Yes
10 Item function (Store in PC card)	No	Yes (card stored)
Price field function	No	Yes
C/D Calculation	No	Yes
Input check function	No	Yes
Rotate copy	Yes	Yes
Image copy	No	Yes
Customised character	No	Yes
Mode	Continuous mode, cutter mode, dispense mode, tear off mode.	Continuous mode, cutter mode, dispense mode, tear off mode.
Media size designation	Media parameter	Media parameter
Printing offset	Yes	Yes
Display setting	No	Yes
Startup display setting	No	Yes
Format control function	No	Yes

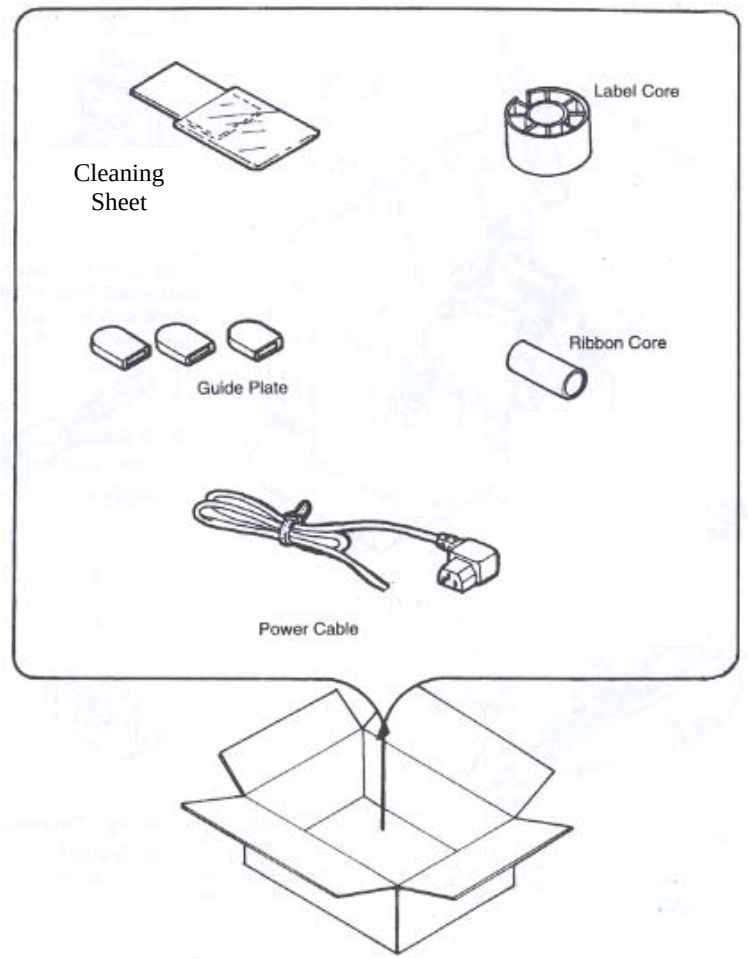
Label Size	Width 32 -80 mm Pitch 19 – 181 mm (Label size is inclusive of label web)
Label Thickness	0.1 – 0.26 mm
Operation Panel	Key: LINE Key, FEED Key LCD: 8 digits x 2 lines (English character display, Black Lit) (only applicable to On-line use) STATUS: 2 – colour LED (Red, Green)
Adjustment VR	PRINT : Print Darkness PITCH : Print Pitch OFFSET : Print Offset
User Mode	1. Print Darkness 2. Print Position Adjustment 3. Print Speed 4. Offset Adjustment
Features	Graphics Print, Sequential Numbering, Line/Box, Print Position Adjustment, Back – Feed, Tear – Off, Calendar, Inverse Image, Zero Slash Selection, Non Standard Code Setting, Hex Dump, Customized Design Character (16 x 16, 24 x 24 dots)
Self Check/Detection	Head Element Broken, Paper End, Ribbon End, Head Open, Memory Card Error, Test Print
Option	Touch Screen Unit, Cutter Unit, Dispenser Unit, PC Card (JEIDA Type II), Scanner, cut Ticket/Tag Receiver, Full Qwerty Keyboard, Rewind Unit.

Label & Carbon Ribbon Specification

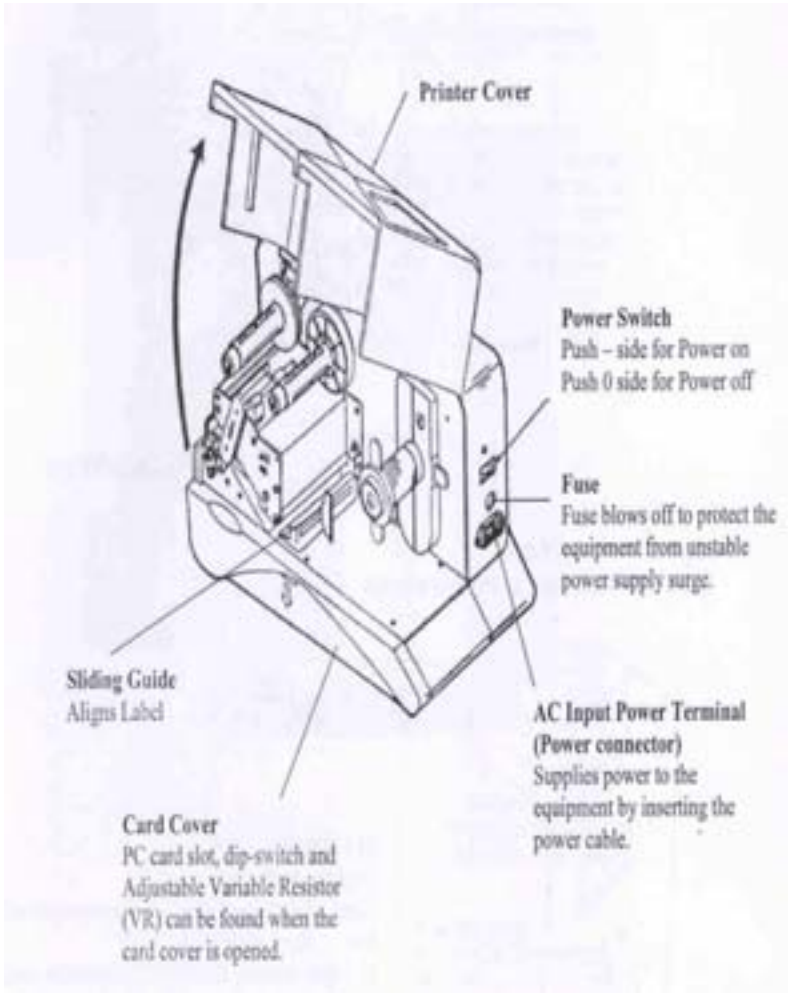
Label	Size	Min. W32 mm – Max W80 mm (incl. of label web) Min. P19 mm – Max W181 mm (incl. of label web)
	Thickness	0.1 mm – 0.26 mm
	Type	Rolled Paper
	Diameter	Max. outer diameter : 250 mm
Carbon Ribbon	Type	Wax, Wax/Resin
	Length	300m/roll
	Width	Max. 84 mm
	Winding	Face-in type

Accessories Checklist

When the box is opened, confirm if the following accessories are included. If anything is found short, the sales outlet or the dealer from where you purchased.



Name of Parts



Specifications

Basic Specification
DR300 General Specifications

Head Density	8 dots/mm		
Print Method	Thermal Transfer/Direct Thermal		
CPU	32-bit RISC CPU		
Print Speed	75, 100, 125 mm/second (Selectable)		
Bar Code Type	UPC-A/E EAN-8 EAN-13 NW7 Code 39 ITF2/5 Code 128 UCC/EAN128 Bookland		
	2D: PDF417, Data Matrix, Vericode, QR code, Maxicode *2D barcode: online printing only		
Bar Code Ratio	1:2, 1:2.5, 1:3 (Software defined)		
Font Expansion	1-9 (Both horizontally and vertically)		
Font Type	U – Font**	W5xP9	(Alphanumeric, notation)
	S – Font**	W17xP17	(Alphanumeric, notation)
	M – Font**	W24xP24	(Alphanumeric, notation)
	OCR – A Font	W19xP22	(Alphanumeric, notation)
	OCR – B Font	W20xP24	(Alphanumeric, notation)
	WB – Font	W48xP48	(Alphanumeric, notation)
	WL – Font	W48xP48	(Alphanumeric, notation)
	**IBM 850 Code Set Table		
Print Area	Max W 80 mm x P 178 mm (Optional print area expansion)		

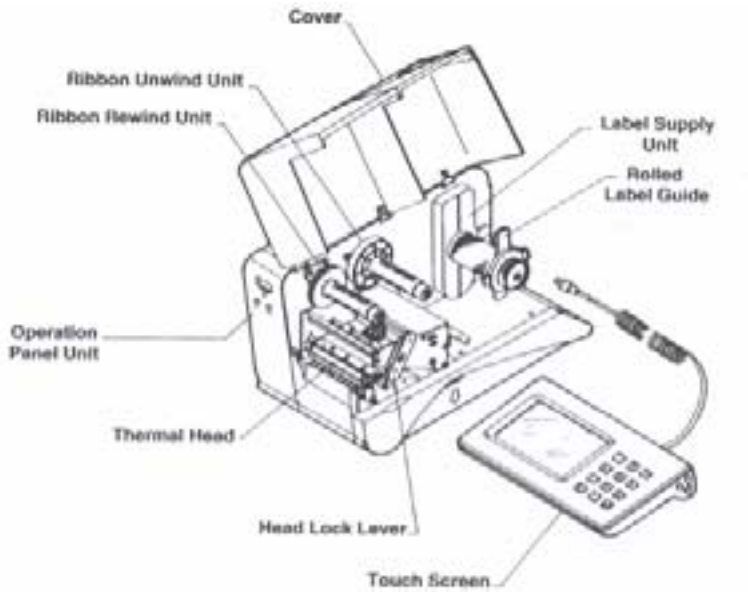
Serial Interface

Interface Specifications

Protocol	Ready/Busy XON/OFF Status 3	(1 item, multi items selectable) (1 item, multi items selectable) (Multi item only)
Baud rate	2400, 4800, 9600, 19200 BPS	
Sychronize	Asynchronous mode	
Maximum receive buffer capacity	32K OK 32K Near full occurrence 2Kbytes remained Near full cancellation 8Kbytes remained	
Character construction	Data bit Start bit Stop bit Parity check	7 or 8 bit 1 bit 1 or 2 bit Even, Odd, None
Data Specification	ASC II (7 bit)	Graphic (8 bit)
Connector	Printer side DB-25S (Equivalent) Cable side DB-25P (Equivalent) Cable length less than 5m	
Transmission format	Start b1 b2 b3 b4 b5 b6 b7 b8 Stop Note : b8 is omitted when set to 7 bit data	
Signal level	High level : +5 ~ +12 V Low level : -5 ~ 12 V	

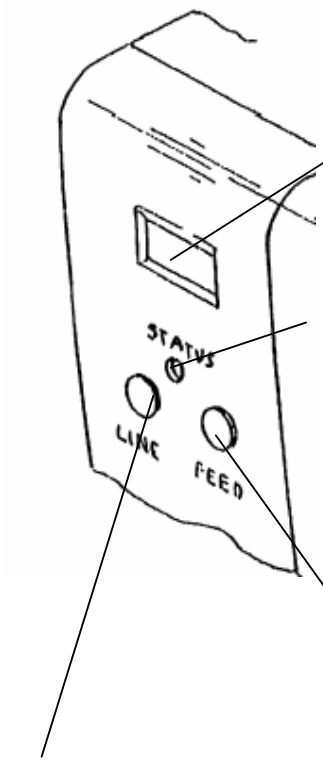
Touch Screen / Keypad

Touch screen is connected to printer main body with a cable.



Operation Panel Unit

Displays operation message and error message



Display
Display error and operation message.

STATUS
Displays status of printer
Green : Printing and data communication are enabled
Red : Error occurred
No Light : Printing and data communication prohibited

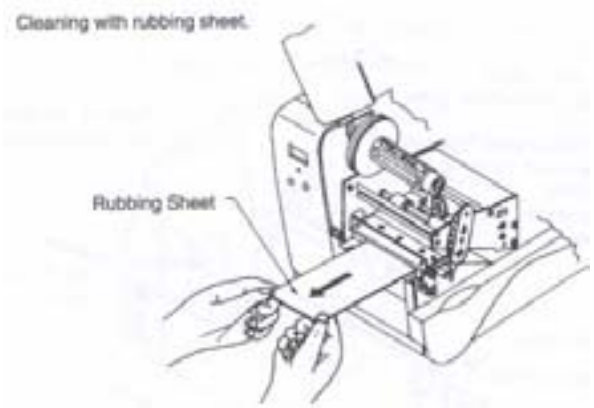
FEED
Feed Key : Feeds Label

- Press FEED key to align label to correct position after changing new label roll

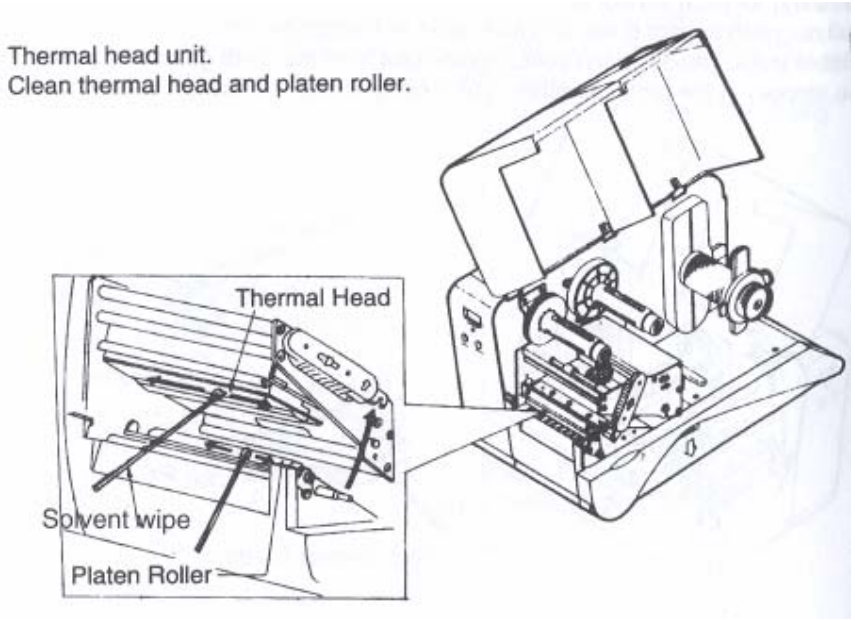
LINE
Line Key : Switch Start/Stop printing and ON/OFF data transmission

❖ Display will be de-activated when Touch Screen is connected

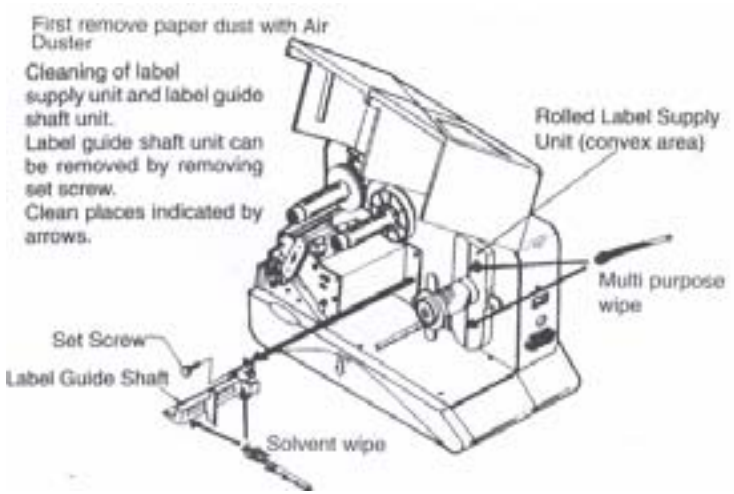
Cleaning with rubbing sheet.



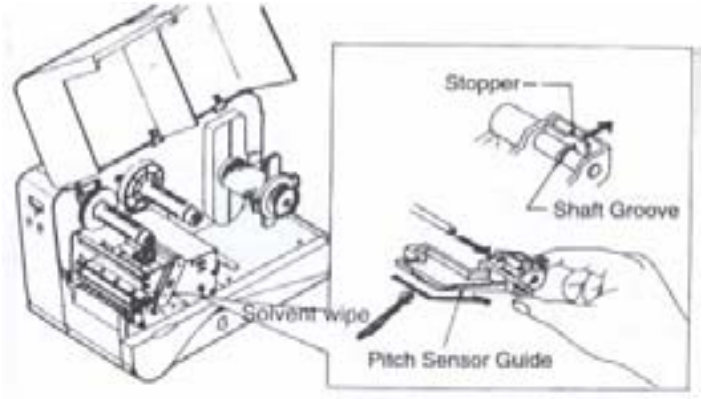
Usage instruction of rubbing sheet is indicated on the rubbing sheet.



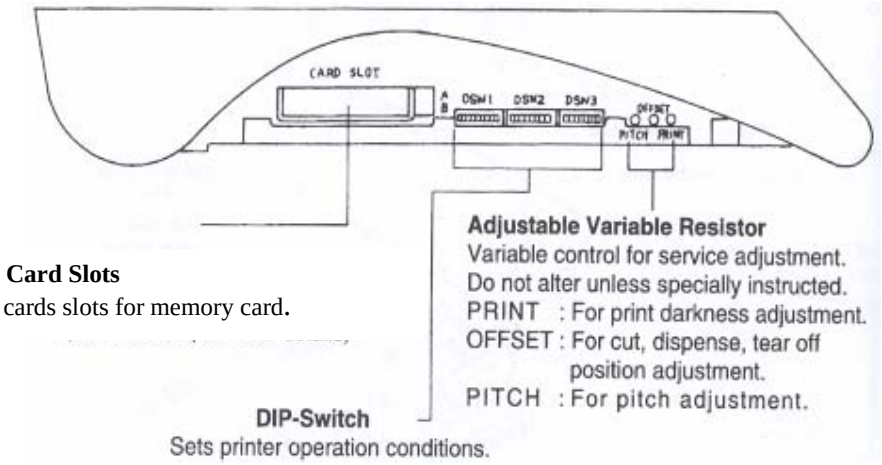
Cleaning method for printer parts



Cleaning for pitch sensor unit.
Pull out pitch sensor guide unit and clean its bottom portion.
If a label is stuck, remove pitch sensor guide unit from the shaft groove by pulling the stopper in the arrow direction, pull it out and clean its bottom area.

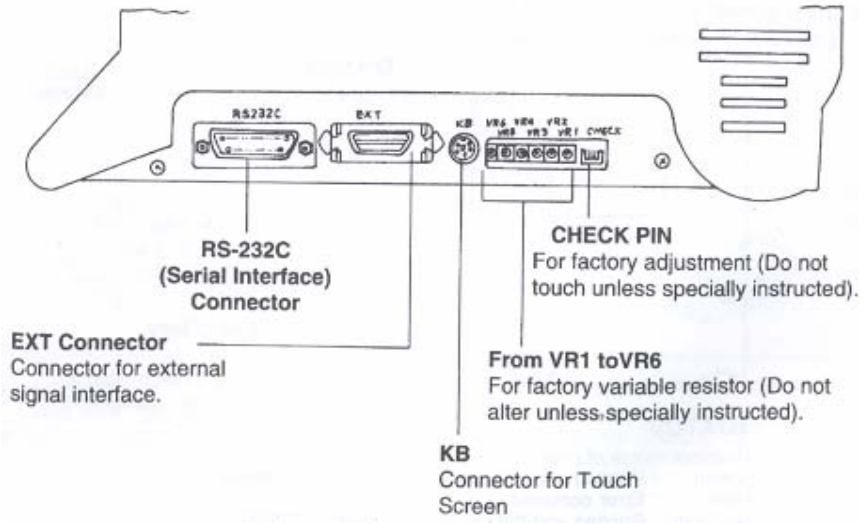


Card Cover Unit



PC Card Slots
PC cards slots for memory card.

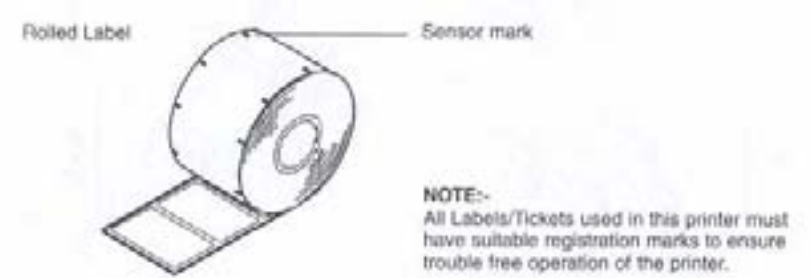
Back Panel Unit



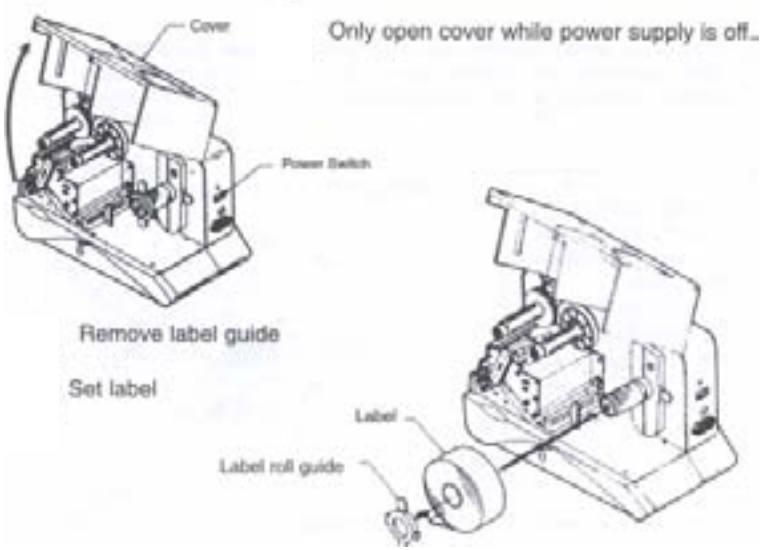
Media Loading
Setting of Label and Carbon Ribbon

Setting paper
Use of genuine SATO labels for this equipment is recommended.

Rolled Label



Setting Rolled Paper



Daily Maintenance

This equipment is for printing information in the form of bar code and character. Periodical preventive maintenance is recommended to keep the printer in good condition.

Timing for maintenance

- Thermal head, platen roller.
  After printing every one roll or 150m of label.
- Others.
  After printing every 6 rolls or 900m of label.

Caution for maintenance (Take following caution in maintenance work)

- The above recommended cleaning frequency is only a guide. Do carry out any cleaning where dirt or dust has gathered.
- Use applicator and cotton cloth for cleaning each component. Avoid metallic tools to prevent damage to printer parts especially print head.
- Ensure that power is switched off before performing any printing.

Maintenance Method

- Printer cleaning kit.
  A cleaning kit is available from SATO.
  This contains:
  1) Solvent wipes (for print head)
  2) Multi purpose wipes
  3) Air duster

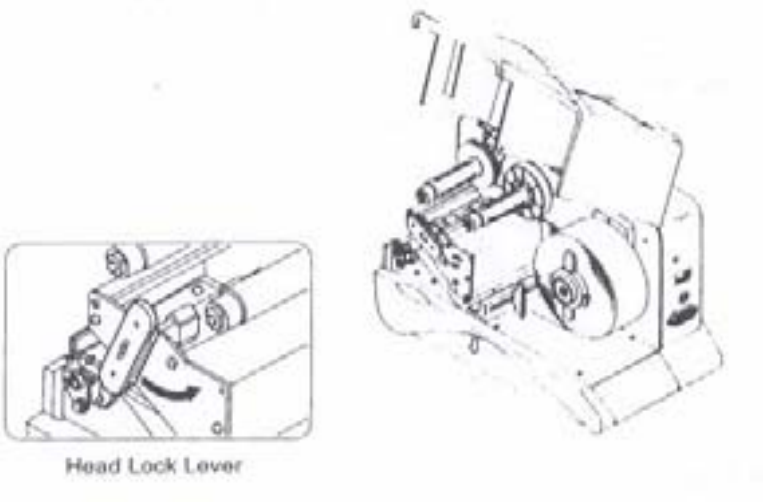
  This will help to keep your printer in good working condition.

Print image shifts from its position

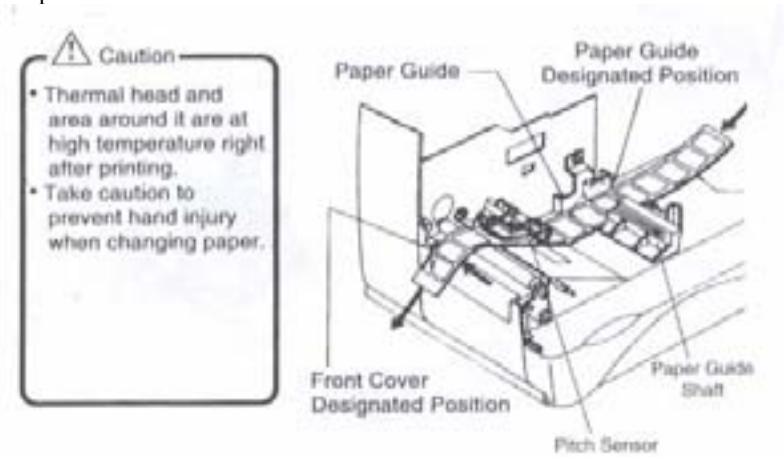
Check Point	Remedy
1. Are the labels, carbon ribbons properly set?	Check if labels, carbon ribbons are fixed firmly and at the correct position by lifting head assembly.
2. Is the platen roller dirty?	Clean dirt off from platen roller with cleaning kit.
3. Are deformed labels, carbon ribbons being used?	Use genuine SATO new labels, carbon ribbons which are in good condition.
4. Are genuine labels, carbon ribbons exclusively for this equipment being used?	Genuine labels, carbon ribbons exclusively for this equipment must be used. Available from SATO.
5. Is the content of data, signal from the computer correct?	Re-set printer with power off/on. If similar message is displayed, check content of software and communication settings at the computer side.
6. Is the print position offset setting correct?	Adjust the print position.

- Disconnect printer from mains before cleaning.

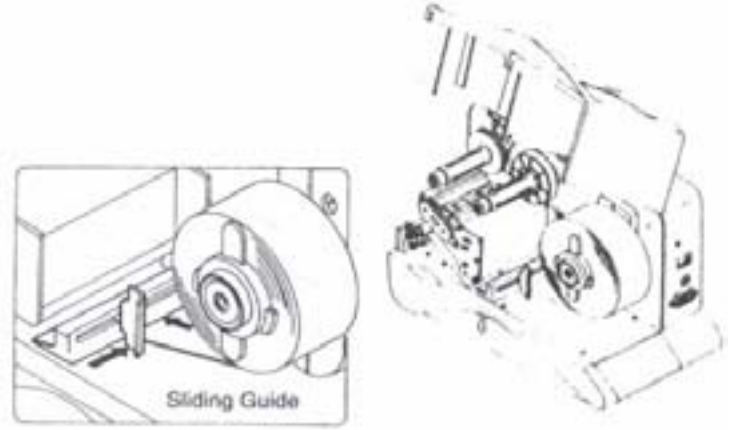
- To open thermal head, turn **head lock lever** in the direction of the arrow.



- Pass paper underneath the pitch sensor and paper guide shaft.
- Lightly push the entire paper against the paper guide designated position as shown in the picture below.

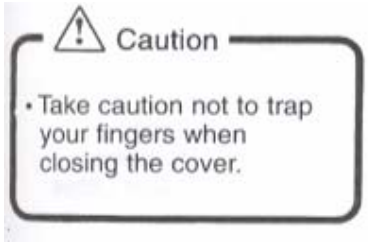


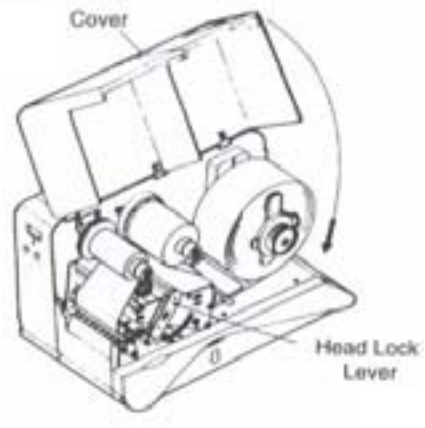
- Adjust the sliding guide until it touches the label.



- Close the thermal head by turning the lock lever to the direction of the arrow.
- Close cover.

NOTE
If thermal transfer in use,
ensure correct ribbon is installed.





Paper fed, but no printing

Check Point	Remedy
1. Is the thermal head dirty or is there a label stuck on it?	Clean dirt off thermal head with cleaning kit. *Avoid using metallic tools which may damage the print head.
2. Are genuine labels, carbon ribbons exclusively for the equipment being used?	Genuine labels, carbon ribbons exclusively for this equipment must be used. Available from SATO.
3. Is the pitch sensor dirty?	Clean dirt off from pitch sensor with cleaning kit.

Poor print image

Check Point	Remedy
1. Are the labels, carbon ribbons properly set?	Check if labels, carbon ribbon are fixed firmly and at the correct position by lifting head assembly.
2. Is the print darkness too light or too dark?	Re-set the print darkness via user mode setting.
3. Is the platen roller dirty?	Wipe dirt off the platen roller with cleaning kit.
4. Is the thermal head dirty or is there a label stuck on it?	Clean dirt or label glue from thermal head with cleaning kit. Remove label if it is stuck onto the print head.
5. Is the label used dirty?	Use clean label.
6. Are genuine labels, carbon ribbons exclusively for the equipment being used?	Genuine labels, carbon ribbons exclusively for this printer must be used. Available from SATO.

- Disconnect printer from mains before cleaning.

❖ **Simple Trouble Shooting**

Confirm the following items when operation of this equipment failed when the power supply is on.

Nothing is displayed on the display

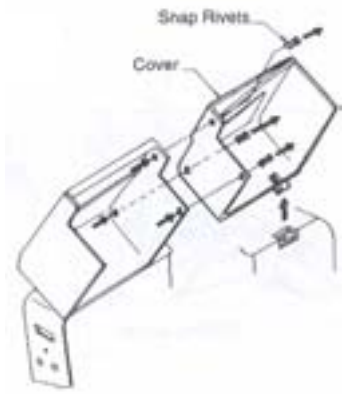
Check Point	Remedy
1. Is the power cable firmly plugged into the power cable?	Plug power cable again into the outlet firmly.
2. Is the power cable firmly plugged into the equipment?	Plug power cable again into the power connector on the main body firmly.
3. Is the power cable damaged?	Replace power cable.
4. Is the fuse on the main body fine?	Check the fuse at the right side of main body. If it is blown, exchange with equivalent fuse. If it blows again after exchange, contact SATO service engineer. *Please ensure printer is disconnected from the mains before exchanging fuse.
5. Is there current supplied to the equipment?	Check power source for power supply outlet. If there is no problem with the power source, check the electricity supply of the building. Check for any power shut down.
6. Is the power source fuse or the circuit breaker for the building out?	Contact the building maintenance office.

- Do not operate power switch or plug in/out power cable with wet hands to avoid electrocution.
- Disconnect printer from mains before printing.

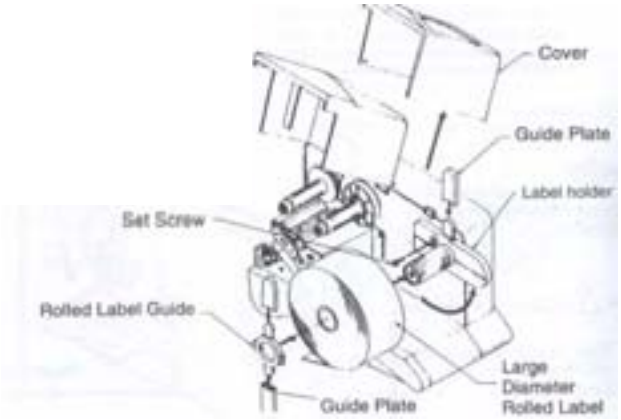
Setting Large Diameter Rolled Label

Method for setting large diameter rolled paper explained.

- Remove right half of the cover fastened with snap rivets.
- Pull out 3 snap rivets on the cover by pushing their centre with finger.



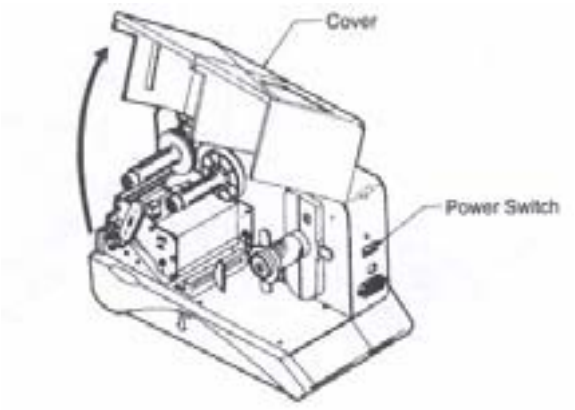
- Alter set position of the label holder.
- Alter position of the set screw.
- Insert guide plate in label supply component and rolled label guide.
- Set large diameter rolled paper.



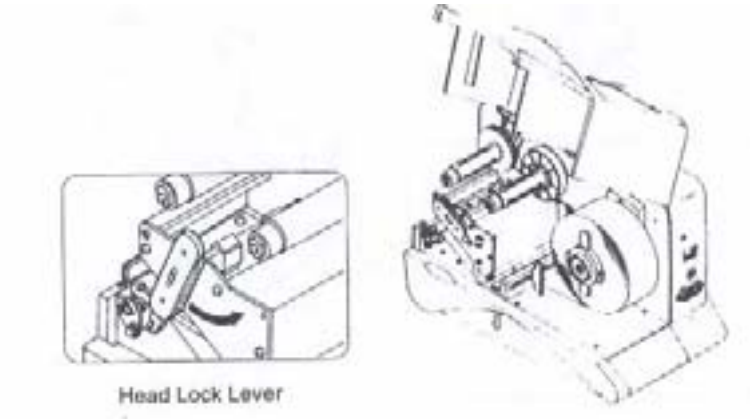
Setting Carbon Ribbon

Only SATO carbon ribbons are recommended for the use on this printer.

- Open cover while power is OFF.

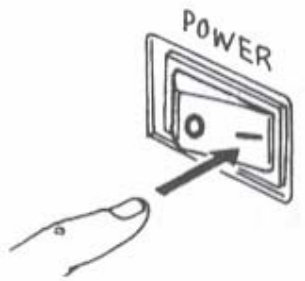


- Open thermal head.
  Turn head lock lever to the direction of the arrow.



Supply Power

Turn power switch on. Push the switch on the side labelled [-].



When the power switch is switched on, initial startup message [Manual Print Mode] is displayed on the touch screen.

Do not operate switch or plug in/out power cable with wet hands to avoid electrocution.

Switch Off Power Supply

❖ **The Following Must Be Done Before Power Off**

- Confirm printer is not in action (idling).
- Stop or pause any printing process before switching off.

Power Supply

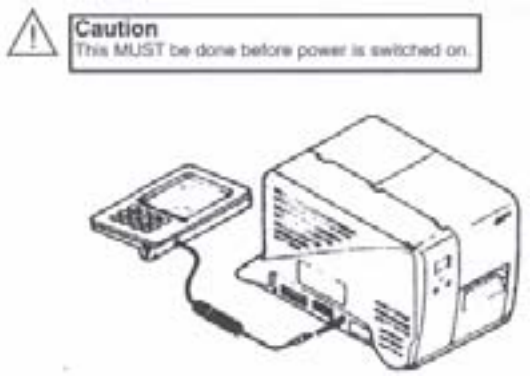
Setting power supply

- **Power Cable Outlet**

Plug in power cable to the main body socket then the outlet socket.

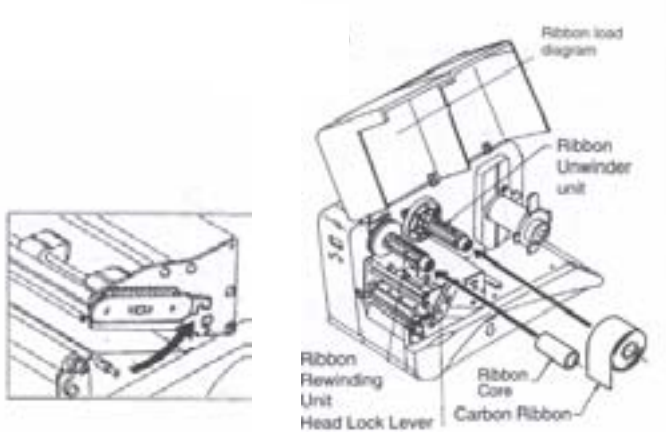
- **Connect Touch Screen To Printer Unit**

Touch Screen comes with a cable to connect to printer main body. Plug in this connecting cable to the connector (KB) at the back of printer main body as shown below. Hold printer main body with one hand when plugging in the connecting cable.

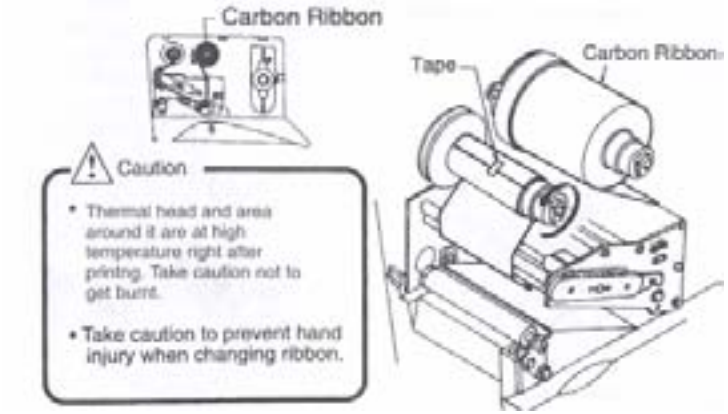


- Insert carbon ribbon fully onto ribbon unwinder unit.
  (Caution on direction of unwinding)
- Set ribbon core on ribbon rewinding unit.

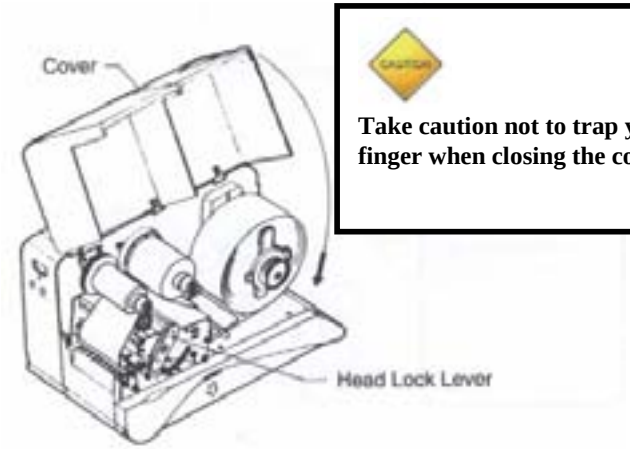
SEE DIAGRAM



- Pass carbon ribbon from ribbon unwinder unit to ribbon rewinding unit underneath the thermal print head. Fix carbon ribbon on ribbon core with tape, etc. and wind several times in the direction of the arrow.
  Confirm carbon ribbon is set as the drawing on the left side by viewing from its side.



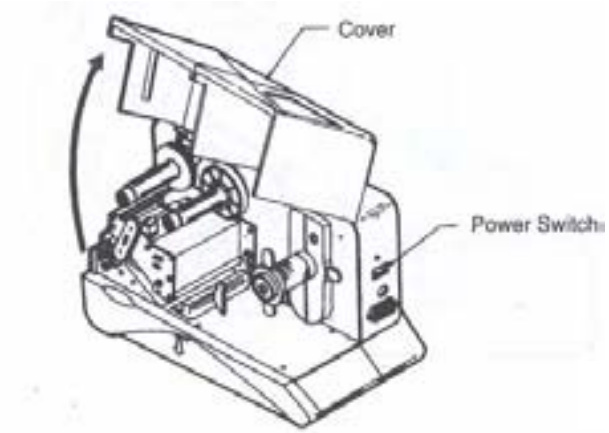
- By turning the head lock lever to the direction of the arrow, close thermal head.
- Close cover.



Take caution not to trap your finger when closing the cover

Pitch Sensor Adjustment

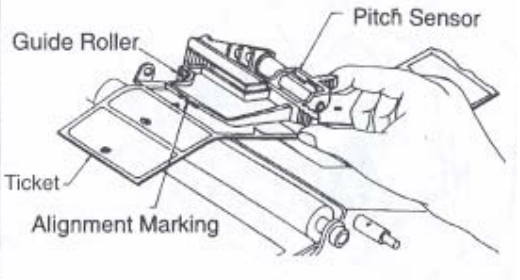
- Open cover when power is OFF.



- Pitch sensor adjustment.
  Slide pitch sensor to locate centre hole.
  This need to be done when using tickets/tags with through punch hole only.

Caution

- Thermal head and area around it are at high temperature right after printing.
  Take caution not to get burnt.
- Take caution to prevent hand injury when changing label.



- Turn head lock lever to the direction of the arrow, close thermal head and close cover.